

CLAIMS

1. A method comprising:
 - detecting a signal from an egress portal;
 - 5 determining that a wireless device is moving from a coverage area of a first wireless communications system to a coverage area of a second wireless communications system in response to detecting the signal from the egress portal;
 - initiating a registration sequence with the second wireless communication system if the wireless device is not registered with the second wireless
 - 10 communications system, in response to determining that the wireless device is moving from the coverage area of the first communications system to the coverage area of the second communications system; and
 - conducting one of a present and a subsequent call via the second wireless communication system.
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2. The method of claim 1, further comprising:
 - detecting a second signal from an egress portal; and
 - determining that the wireless device is moving from a coverage area of a first communications system to a coverage area of a second communications system
 - 20 according to the order of signals received from the egress portal.

3. The method of claim 1, wherein the first wireless communication system is a wireless local area network (WLAN) and the second wireless communication system is a wide area network (WAN).
- 5 4. The method of claim 3, wherein the wireless local area network (WLAN) uses at least one protocol of IEEE Standard 802.11 and Bluetooth.
5. The method of claim 3, wherein the wide area network (WAN) uses at least one protocol of code division multiple access (CDMA), wideband code division
10 multiple access (WCDMA), time division multiple access (TDMA), global system for mobile communications (GSM) and integrated digital enhanced network (iDEN).
6. The method of claim 1, wherein the first wireless communication system is a wide area network (WAN) and the second wireless communication system is a
15 wireless local area network (WLAN).
7. The method of claim 6, wherein the wireless local area network (WLAN) uses at least one protocol of IEEE Standard 802.11 and Bluetooth.
- 20 8. The method of claim 6, wherein the wide area network (WAN) uses at least one protocol of code division multiple access (CDMA), wideband code division multiple access (WCDMA), time division multiple access (TDMA), global system for mobile communications (GSM) and integrated digital enhanced network (iDEN).

9. The method of claim 1, wherein the egress portal comprises at least one of a Bluetooth access point, an infrared transmitter, an electronic security detection device, and a second consecutive wireless local area network (WLAN) border cell.

5 10. The method of claim 1, wherein the detecting a signal from an egress portal step is in response to detecting a triggering event.

11. The method of claim 10, wherein the triggering event comprises at least one of detecting a wireless local area network border cell, detecting a degradation in signal
10 quality, and detecting a start of a call.

12. The method of claim 11, wherein the step of detecting a wireless local area network (WLAN) border cell comprises:
receiving status information from a WLAN access point; and
15 determining that a border cell indicator of the status information is set.

13. The method of claim 12, wherein the status information comprises a border cell indicator and a wide area network (WAN) information indicator.

20 14. The method of claim 13, further comprising:
determining that the WAN information indicator is set;
obtaining available WAN information from the WLAN access point; and
using the available WAN information to conduct communications with a wide
area network.

15. The method of claim 14, wherein the available WAN information comprises at least one of service providers, Radio Access Technologies (RAT's), channel information, timing information, and Pilot strength measurements.

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16. The method of claim 15, wherein the available WAN information comprises information for at least two wide area networks.

17. A method comprising:

10 determining that a wireless device, operating in a first communication system is detecting a wireless local area network border cell;

initiating a registration sequence with a second wireless communication system in response to determining that the wireless device is detecting a wireless local area network border cell;

15 detecting a second wireless local area network border cell within a predetermined amount of time;

determining that the wireless device is moving from a coverage area of the first communications system to a coverage area of the second communications system in response to detecting a second wireless local area network border cell; and

20 conducting one of a present and a subsequent call via the second wireless communication system.

18. A method comprising:

detecting a triggering event;

detecting a signal from an egress portal in response to detecting a triggering event;

5 obtaining available wide area network information from a wireless local area network access point; and

scanning for at least one wide area network listed in the available wide area network information.

10 19. The method of claim 18, wherein the triggering event comprises at least one of detecting a wireless local area network border cell, detecting a degradation in signal quality, and detecting a start of a call.

20. A mobile communication device comprising:

at least two transceivers, each transceiver designed to operate on a separate wireless communications system, for transmitting and receiving wireless information;

5 a controller, communicatively coupled to each transceiver, for managing the operation of the mobile communication device;

a first wireless communications system stack, communicatively coupled to the controller, having instructions for communicating according to its respective protocol;

10 a second wireless communications system stack, communicatively coupled to the controller, having instructions for communicating according to its respective protocol;

a means for receiving signals from an egress portal; and

15 a handover manager, communicatively coupled to the controller, the first wireless communications system stack, the second wireless communications system stack, and the means for receiving signals from an egress portal, the handover manager for determining when to handover from the first wireless communication system to the second wireless communication system in response to determining that the means for receiving signals from an egress portal has received at least one signal from the egress portal.

20 21. The mobile communication device of claim 20, wherein the at least two transceivers share common hardware and software.

22. The mobile communication device of claim 20, wherein the means for receiving signals from an egress portal comprises at least one of a Bluetooth transceiver, an infrared sensor, and an electronic security detection device.

- 5 23. A mobile communication system comprising:
- at least one egress portal located at the at least one entry/exit point, the egress portal for transmitting signals to a mobile communications device;
 - at least one cell of a wireless local area network communications system, the
 - 10 cell providing communication coverage within the structure;
 - at least one coverage cell of a second communications system, overlapping the at least one cell of a wireless local area network, for providing communication coverage outside the structure; and
 - at least one mobile subscriber device, communicatively coupled with the at
 - 15 least one cell of the wireless local area network communications system, and the at least one cell of the second communications system, the device for determining when to handover from one wireless communication system to the second wireless communication system in response to determining that the device has received signals from the at least one egress portal.

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24. A mobile communication system of claim 23 further comprising:
at least one border cell of a wireless local area network communications
system, the border cell located at the entry/exit point of the structure, providing a
transition region between the wireless local area network communications system and
5 the second communications system.

25. A computer readable medium comprising computer instructions for
performing the steps of:
detecting a signal from an egress portal;
10 determining that a wireless device is moving from a coverage area of a first
wireless communications system to a coverage area of a second wireless
communications system in response to detecting the signal from the egress portal;
initiating a registration sequence with the second wireless communication
system if the wireless device is not registered with the second wireless
15 communications system, in response to determining that the wireless device is moving
from the coverage area of the first communications system to the coverage area of the
second communications system; and
conducting one of a present and a subsequent call via the second wireless
communication system.

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26. The computer readable medium of claim 25, further comprising computer instructions for:

detecting a second signal from an egress portal; and

determining that the wireless device is moving from a coverage area of a first

5 communications system to a coverage area of a second communications system according to the order of signals received from the egress portal.

27. The computer readable medium of claim 25, wherein the egress portal

comprises at least one of a Bluetooth access point, an infrared transmitter, an

10 electronic security detection device, and a second consecutive wireless local area network (WLAN) border cell.

28. The computer readable medium of claim 25, wherein the detecting a signal from an egress portal step is in response to detecting a triggering event.

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29. The computer readable medium of claim 28, wherein the triggering event

comprises at least one of detecting a wireless local area network border cell, detecting a degradation in signal quality, and detecting a start of a call.

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30. A computer readable medium comprising computer instructions for performing the steps of:

determining that a wireless device, operating in a first communication system is detecting a wireless local area network border cell;

5 initiating a registration sequence with a second wireless communication system in response to determining that the wireless device is detecting a wireless local area network border cell;

detecting a second wireless local area network border cell within a predetermined amount of time;

10 determining that the wireless device is moving from a coverage area of the first communications system to a coverage area of the second communications system in response to detecting a second wireless local area network border cell; and

conducting one of a present and a subsequent call via the second wireless communication system.

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31. A computer readable medium comprising computer instructions for performing the steps of:

detecting a triggering event;

20 detecting a signal from an egress portal in response to detecting a triggering event;

obtaining available wide area network information from a wireless local area network access point; and

scanning for at least one wide area network listed in the available wide area network information.

32. The computer readable medium of claim 31, wherein the triggering event comprises at least one of detecting a wireless local area network border cell, detecting a degradation in signal quality, and detecting a start of a call.

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